



Volunteer Lake Assessment Program Individual Lake Reports

KILTON POND, GRAFTON, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	4,480	Max. Depth (m):	3.1	Flushing Rate (yr ⁻¹)	34.7	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	68	Mean Depth (m):	1.2	P Retention Coef:	0.39	1979	OLIGOTROPHIC	
Shore Length (m):	4,000	Volume (m ³):	318,500	Elevation (ft):	850	1993	MESOTROPHIC	

The Waterbody Report Card tables are generated from the DRAFT 2014 305(b) report on the status of N.H. waters, and are based on data collected from 2004-2013. Detailed waterbody assessment and report card information can be found at www.des.nh.gov/organizations/divisions/water/wmb/swqa/index.htm

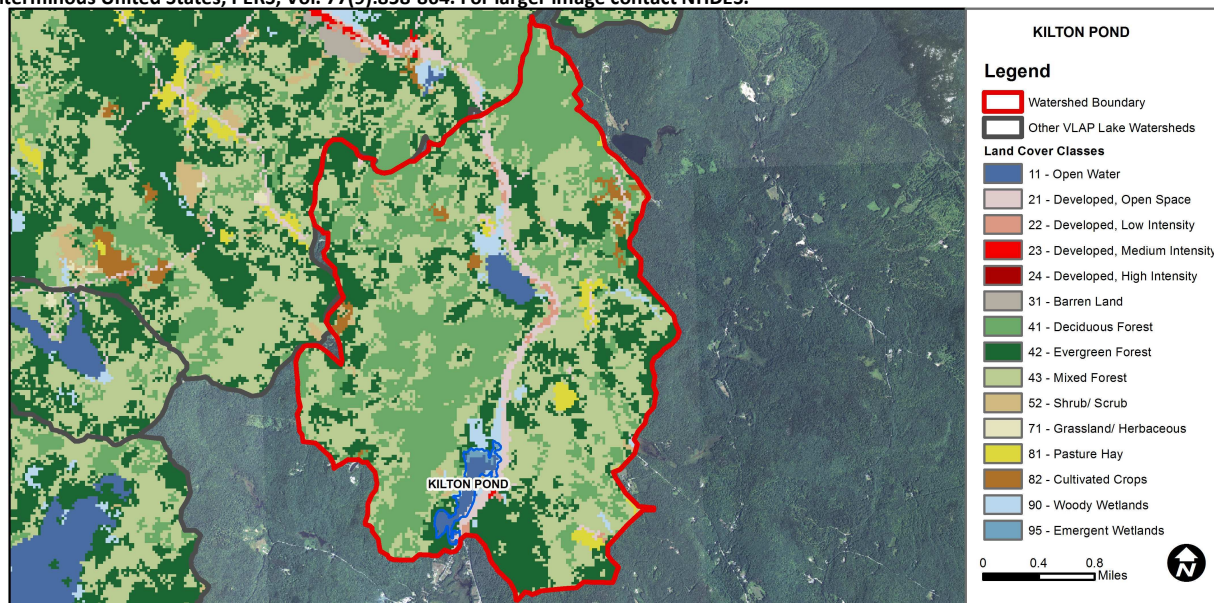
Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Cautionary	The calculated median is fewer than 5 samples but > indicator and the chlorophyll a indicator is okay. More data needed.
	pH	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.
	Oxygen, Dissolved	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Dissolved oxygen satura	Encouraging	There are < 10 samples with 0 exceedances of criteria. More data needed.
	Chlorophyll-a	Good	The calculated median is from 5 or more samples and is < indicator and > 1/2 indicator.
Primary Contact Recreation	Escherichia coli	Encouraging	There are no geometric means or there are > 2 single samples but those samples are within 75% of the geometric means criteria. More data needed.
	Chlorophyll-a	Very Good	There are a total of at least 10 samples with 0 exceedances of indicator.

BEACH PRIMARY CONTACT ASSESSMENT STATUS

KILTON POND - HUFF BEACH	Escherichia coli	Very Good	Where there are no geometric means, all bacteria samples are < 75% of the geometric mean. Where there are geometric means all single bacteria samples are < the SSMC and all geometric means are < geometric mean criteria.
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WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	2.14	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	3.14	Deciduous Forest	30.3	Pasture Hay	1.29
Developed-Low Intensity	0.5	Evergreen Forest	21.99	Cultivated Crops	1.1
Developed-Medium Intensity	0.03	Mixed Forest	37.14	Woody Wetlands	1.81
Developed-High Intensity	0	Shrub-Scrub	0.38	Emergent Wetlands	0.17



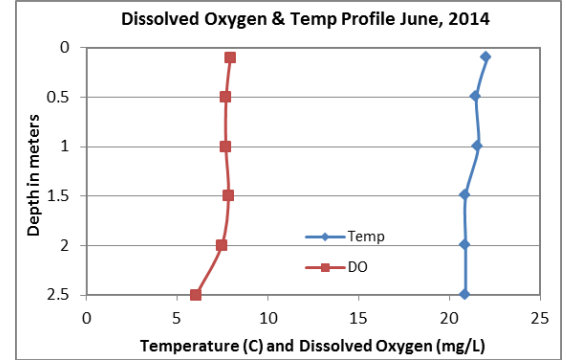
VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

KILTON POND, GRAFTON

2014 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- **CHLOROPHYLL-A:** Chlorophyll levels increased slightly from June to July and then decreased slightly from July to August. Average chlorophyll levels were relatively low and less than the state median. Historical trend analysis indicates stable chlorophyll levels since monitoring began.
- **CONDUCTIVITY/CHLORIDE:** Epilimnetic (deep spot) and Smith River Inlet conductivity levels were slightly elevated and greater than the state median and chloride levels were slightly greater than the state median. Historical trend analysis indicates highly variable epilimnetic conductivity since monitoring began. Stream 1 and Stream 2 conductivity levels were low suggesting nearby winter de-icing activities along the Smith River may be contributing to the higher conductivity levels in the river and the pond.
- **TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels decreased slightly from June to July and increased slightly from July to August. Average epilimnetic phosphorus was low and much less than the state median. Historical trend analysis indicates stable epilimnetic phosphorus since monitoring began. Smith River Inlet, Stream 1 and Stream 2 phosphorus levels were low on each sampling event.
- **TRANSPARENCY:** Transparency was good and the Secchi disk was visible on the pond bottom on each sampling event. Historical trend analysis indicates significantly increasing (improving) transparency since monitoring began.
- **TURBIDITY:** Epilimnetic turbidity increased slightly from June to July likely due to the increase in algal growth. Smith River Inlet turbidity was slightly higher in July and August but not greater than the historical average. Stream 1 and Stream 2 turbidities were low.
- **pH:** Epilimnetic pH levels were within the desirable range 6.5-8.0 units however have historically been less than desirable. Stream 2 pH levels were much lower than the other stations and potentially critical to aquatic life.
- **RECOMMENDED ACTIONS:** Pond water quality was good in 2014 and the improving and stable trends are a great sign. The slightly elevated conductivity and chloride levels in Smith River Inlet and the pond indicate winter de-icing practices may be impacting the watershed. Consider discussion of a reduced salt zone along Rt. 4 with the NH Dept. of Transportation (NHDOT). Keep up the great work!



Station Name	Alk. mg/l	Chlor-a ug/l	Chloride mg/l	Cond. uS/cm	Total P ug/l	Trans. m		Turb. ntu	pH
						NVS	VS		
Epilimnion	8.73	3.71	12	71.1	8	2.87	3.08	0.91	6.90
Smith River Inlet			14	84.9	8			1.13	6.79
Stream 1				26.0	8			0.30	6.36
Stream 2				17.9	7			0.25	5.88

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m³
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: > 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: between 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
Conductivity	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Stable	Trend not significant; data show low variability.
pH (epilimnion)	Stable	Trend not significant; data show low variability.	Transparency	Improving	Data significantly increasing.
			Phosphorus (epilimnion)	Stable	Trend not significant; data show low variability.

